VI TELEFILTER Filter Specification TFH 44 D 1/5

Measurement condition

Ambient temperature: 25 °C
Input power level: 10 dBm
Terminating impedances
for input: 50 Ω || 0 pF
for output: 50 Ω || 0 pF

Characteristics

Remark:
Reference level for the relative attenuation a_{rel} of the TFH 44D is the insertion loss. The insertion loss a_e is defined as the insertion loss at the nominal frequency f_N . The centre frequency f_c is the arithmetic mean value of the upper and lower frequencies at the 3 dB filter attenuation level relative to the insertion loss a_e. The temperature coefficient of frequency Tc_f is valid for both the reference frequency f_c and the frequency response of the filter on the operating temperature.

D a t a		typ. value		tolerance/limit		
Insertion loss (Reference level)	a_e	22,4	dB	max.	24,0	dB
Nominal frequency	f_N	-			44,0	MHz
Centre frequency	f_C	44,0	MHz		-	
Passband	PB			f_N ±	2,8	MHz
Passband variation	p-p	0,45	dB		0,60	dB
3 dB bandwidth	BW	8,12	MHz	min.	8,00	MHz
Relative attenuation	a_{rel}					
f_N ± 4,00 MHz				max.	3	dB
f_N ± 4,80 MHz ..... f_N ± 15 MHz		42	dB	min.	40	dB
Group delay variation in PB		48	ns	max.	60	ns
Temperature coefficient of frequency (Tc_f)		-75	ppm/K			
Frequency deviation of f_c over temperature T:		$\Delta f_C(Hz) = Tc_f(ppm/K) \times (T - T_A) \times f_{CAT}$ (MHz)				
Operating temperature					25	°C
Storage temperature range					- 25..... + 85	°C

Generated:

Checked / approved:

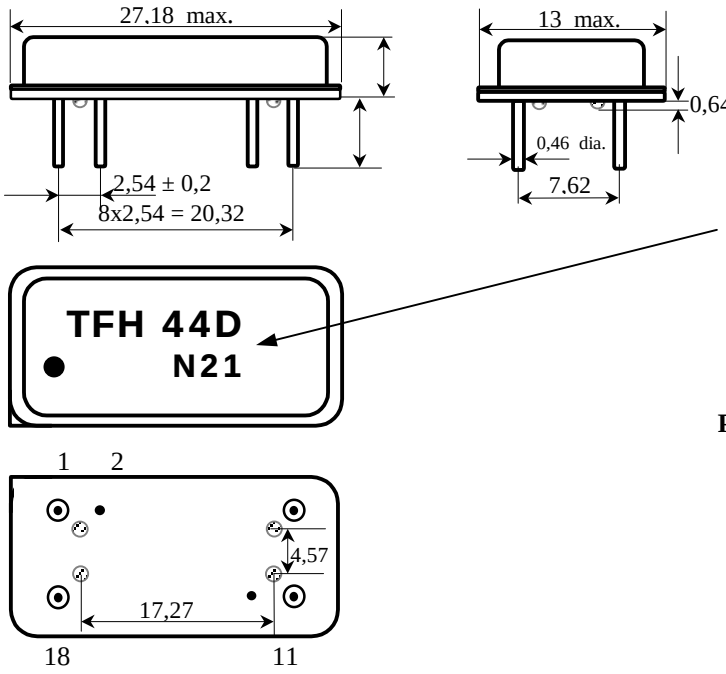
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Construction, pin configuration and 50 Ω - matching network

(All dimensions in inch)

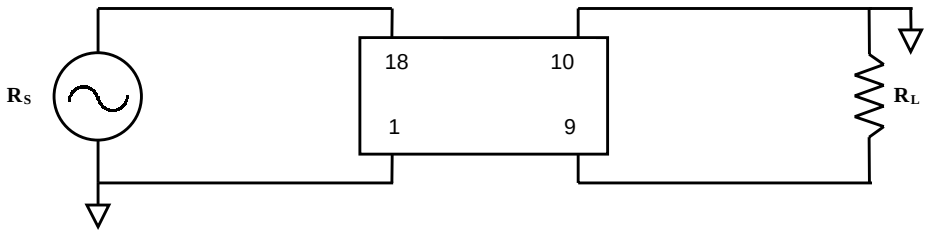


Datecode:	Year+week
L	1999
M	2000
N	2001
....	

Pin Configuration

Input:	18
Input Return:	1
Output:	9
Output Return:	10
Ground:	2,11

50 Ohm test circuit



Stability characteristics

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After the following tests the filter shall meet the whole specification:

1. Shock:	500g, 18 ms, half sine wave, 3 shocks each plane; DIN IEC 68 T2 - 27
2. Vibration:	10 Hz to 500 Hz, 0,35 mm or 5g respectively, 1 octave per min, 10 cycles per plan, 3 plans; DIN IEC 68 T2 - 6
3. Damp heat: (cycle)	25 °C to 55°C / 95% r.H. / 10 cycles DIN IEC 68 - 2 – 30 Db
4. Resistance to solder heat (reflow):	max. 2 times reflow process; for temperature conditions refer to the attached "Air reflow temperature conditions" on page 4;

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Air reflow temperature conditions

1st and 2nd air reflow profile

Name:	pre-heating periods	main-heating periods	peak temperature
Temperature:	150 °C - 170 °C	over 200 °C	255 °C ± 5 °C
Time:	60 sec. - 90 sec.	20 sec. - 25 sec.	

Chip-mount air reflow profile

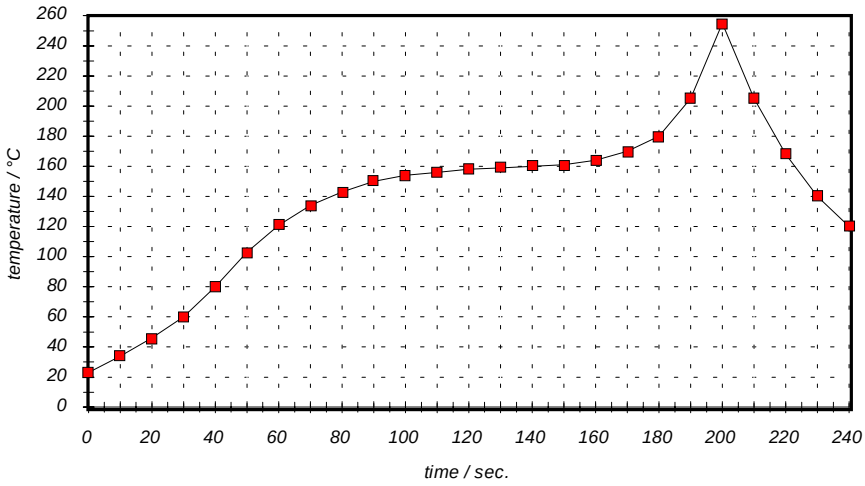


Table for temperature vs. time during the air reflow process

Tolerance of temperatures: ± 5 °C

time / sec.	temperature / °C	time / sec.	temperature / °C
0	23	140	160
10	34	150	161
20	46	160	164
30	60	170	170
40	80	180	180
50	103	190	205
60	121	195	230
70	134	200	255
80	143	205	230
90	150	210	205
100	154	215	180
110	156	220	165
120	158	230	140
130	159	240	120

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History

version	reason of changes	name	date
1.0	generate extended specification	Pfeiffer	14.02.2001
1.1	**-** relative attenation f_N ± 4,80MHz .....f_N ± 15 MHz : min 40 dB - passband variation : 0,60 dB - change typical values	Pfeiffer	08.03.2001
1.2	group delay variation in pass band: max. ➔ 60 ns & typ. value ➔ 48 ns	Pfeiffer	07.06.2001

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